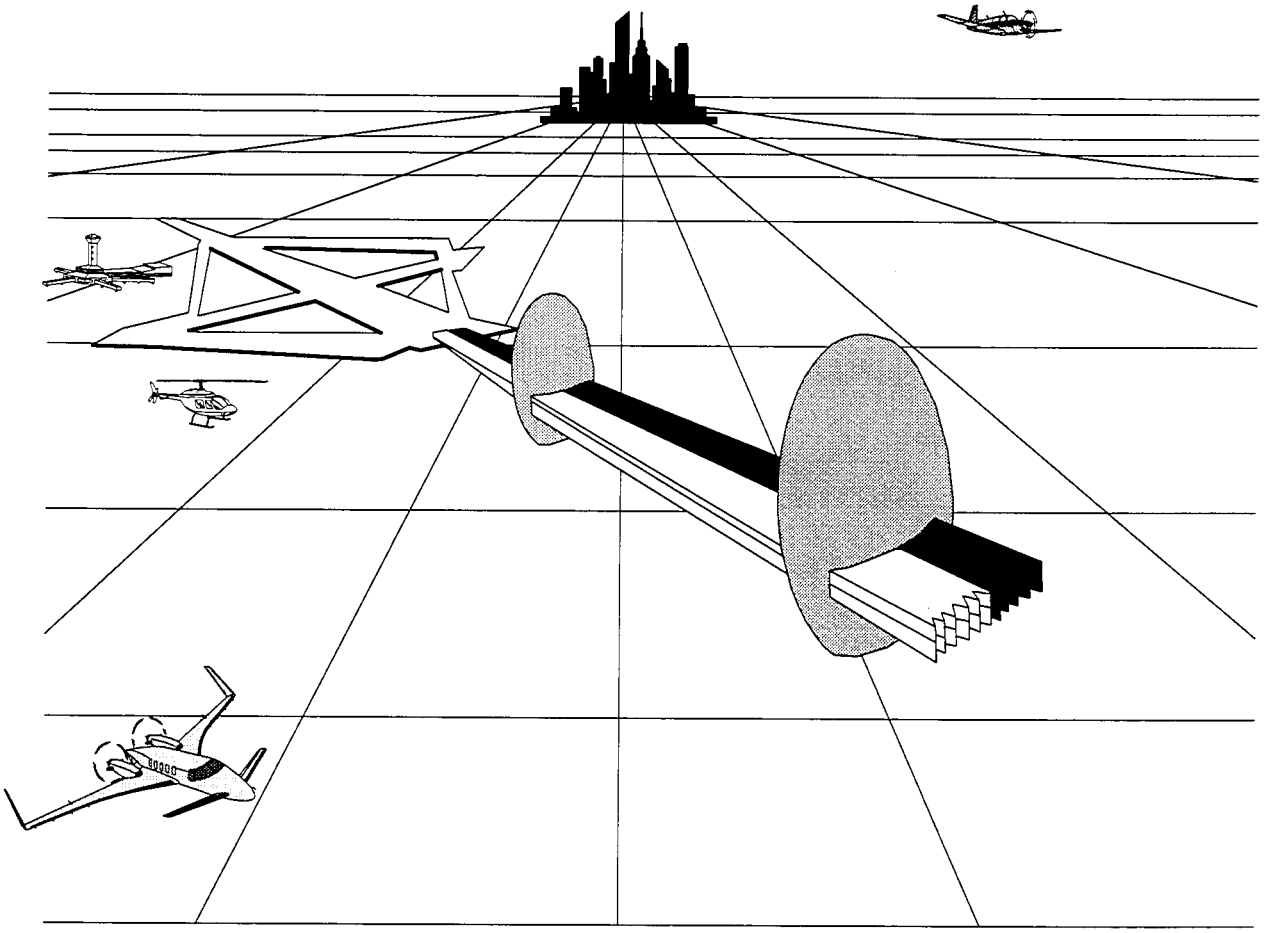
AC 61-119

INSTRUMENT RATING KNOWLEDGE TEST GUIDE



U.S. Department of Transportation
Federal Aviation Administration

INSTRUMENT RATING
KNOWLEDGE TEST GUIDE

1995

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Flight Standards Service

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PREFACE

The Flight Standards Service of the Federal Aviation Administration (FAA) has developed this guide to help applicants meet the knowledge requirements for instrument rating certification.

This guide contains information about eligibility requirements, test descriptions, testing and retesting procedures, and sample test questions representative of those used in the official tests. Sample test questions and choices of answers are based on regulations, principles, and practices valid at the time this guide was printed. In addition, appendix 1 provides a list of reference materials and subject matter knowledge codes, and computer testing designees. The list of subject matter knowledge codes should be referred to when reviewing areas of deficiency on the airman test report. Changes to the subject matter knowledge code list will be published as a separate advisory circular.

The instrument rating test question bank and subject matter knowledge code list for all airmen certificates and ratings, with changes, may be obtained by computer modem from FedWorld at (703) 321-8020. This bulletin board service is provided by the U.S. Department of Commerce, 24 hours a day, 7 days per week. For technical assistance regarding computer software and modem requirements for this service, contact the FedWorld help desk at (703) 487-4608 from 7:30 a.m. to 5 p.m. EST, Monday through Friday.

This publication may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325 or from U.S. Government Printing Office bookstores located in major cities throughout the United States.

Comments regarding this guide should be sent to:

Federal Aviation Administration
Operations Support Branch, AFS-630
ATTN: Instrument Rating Certification Area Manager
P.O. Box 25082
Oklahoma City, OK 73125

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INSTRUMENT RATING
KNOWLEDGE TEST GUIDE

INTRODUCTION

The FAA has available hundreds of computer testing centers nationwide. These testing centers offer the full range of airman knowledge tests including military competence, instrument foreign pilot, and pilot examiner predesignated tests. Refer to appendix 1 in this guide for a list of computer testing designees.

This knowledge test guide was developed to be used by applicants preparing to take the instrument rating knowledge tests using a computer. This guide covers the areas of knowledge for the instrument rating. It also provides a foundation in those procedures established by Federal Aviation Regulations (FAR's) to ensure safe and orderly instrument flight operations within the national airspace.

Applicants preparing for the instrument knowledge test should use this guide to determine what type of questions to expect on the actual knowledge test. The FAA has developed a bank of questions covering the specific subject matter areas pertaining to the four instrument rating areas. These areas are:

Instrument Rating — Airplane
Instrument Rating — Helicopter
Instrument Rating — Foreign Pilot
Instrument Rating — Airship (when it becomes available with a change in the FAR's)

Knowledge tests for the instrument ratings listed above consist of a selection of questions in the areas that pertain to the FAR requirements, attitude instrument flying, flight planning, meteorology, the pilot's responsibility when operating under instrument flight rules (IFR); and IFR operations pertinent to preflight, departure, en route, and arrival. The instrument rating — foreign pilot test includes questions that pertain to instrument flight rules and related procedures. These tests can be administered by any authorized computer testing center.

ELIGIBILITY REQUIREMENTS

The general prerequisites for an instrument rating require that the applicant have a combination of experience, knowledge, and skill. For specific information pertaining to certification, an applicant should carefully review the appropriate sections of FAR Part 61 for instrument rating requirements.

Additionally, to be eligible for an instrument rating, applicants must:

1. Hold at least a current private pilot certificate with an aircraft rating appropriate to the instrument rating sought.

2. Be able to read, speak, and understand the English language.

3. Show satisfactory completion of ground instruction or home study course required by FAR Part 61 for the certificate or rating sought.

4. Present as personal identification an airman certificate, driver's license, or birth certificate showing that they meet the age requirements prescribed for the certificate sought no later than 2 years from the date of application for the test.

KNOWLEDGE AREAS ON THE TESTS

An applicant for the knowledge test for an instrument rating must have received ground instruction, or have logged home study in at least the following areas:

1. The FAR's that apply to flight under IFR conditions, the Airman's Information Manual (AIM), and the IFR air traffic system and procedures.

2. Dead reckoning appropriate to IFR navigation; IFR navigation by radio aids using the VOR, ADF, and ILS systems; and the use of IFR charts and instrument approach procedures.

3. The procurement and use of aviation weather reports and forecasts, and the elements of forecasting weather trends on the basis of that information and personal observation of weather conditions.

4. The safe and efficient operation of aircraft, as appropriate, under instrument weather conditions.

DESCRIPTION OF THE TESTS

All test questions are the objective, multiple-choice type, with three choices of answers. Each question can be answered by the selection of a single response. Each test question is independent of other questions, that is, a correct response to one does not depend upon, or influence the correct response to another.

A significant number of the questions are "category-specific" and appear ONLY on the airplane test, the helicopter test, or the airship test. The 20-question "added rating" tests are composed mostly of these "category-specific" questions. A 20-question "added rating" test is administered to an applicant who already holds an instrument rating in one category (airplane or helicopter) and wishes to meet the knowledge requirements for the other category. The "category-specific" questions pertain to such knowledge areas as recency of experience and weather minimums.

Tests developed from the instrument rating knowledge bank of questions:

Instrument Rating — Airplane
Instrument Rating — Rotorcraft/Helicopter
Instrument Rating — Airplane (Added Rating)
Instrument Rating — Rotorcraft/Helicopter (Added Rating)
Instrument Rating — Foreign Pilot
Instrument Flight Instructor — Airplane
Instrument Flight Instructor — Rotorcraft/Helicopter
Instrument Flight Instructor — Airplane (Added Rating)
Instrument Flight Instructor —Rotorcraft/ Helicopter (Added Rating)
Ground Instructor — Instrument

Ground instructor—instrument applicants should be prepared to answer any question that appears in the instrument question bank as they are expected to teach all instrument ratings.

The instrument rating—airplane and helicopter have 60 questions each and 2.5 hours is allowed for taking each test.

The instrument flight instructor—airplane and helicopter, the ground instructor—instrument, and the instrument rating—foreign pilot tests have 50 questions each and 2.5 hours is allowed for taking each test.

All added rating tests have 20 questions each and 1.0 hour is allowed for taking each test.

A *score* of 70 percent must be attained to successfully pass each test.

Communication between individuals through the use of words is a complicated process. In addition to being an exercise in the application and use of aeronautical knowledge, a test is also an exercise in communication since it involves the use of the written language. Since the tests involve written rather than spoken words, communication between the test writer and the person being tested may become a difficult matter if care is not exercised by both parties. Consequently, considerable effort is expended to write each question in a clear, precise manner. Make sure you carefully read the instructions given with each test, as well as the statements in each test item.

When taking a test, keep the following points in mind:

1. Answer each question in accordance with the latest regulations and procedures.

2. Read each question carefully before looking at the possible answers. You should clearly understand the problem before attempting to solve it.

3. After formulating an answer, determine which choice most nearly corresponds with that answer. The answer chosen should completely resolve the problem.

4. From the answer given, it may appear that there is more than one possible answer. However, there is only one answer that is correct and complete. The other answers are either incomplete or are derived from popular misconceptions.

5. If a certain question is difficult for you, it is best to mark it for RECALL and proceed to the other questions. After you answer the less difficult questions, return to those which you marked for recall and answer them. The recall marking procedure will be explained to you prior to starting the test. Although the computer should alert you to unanswered questions, make sure every question has an answer recorded. This procedure will enable you to use the available time to the maximum advantage.

6. When solving a calculation problem, select the answer nearest to your solution. The problem has been checked with various types of calculators; therefore, if you have solved it correctly, your answer will be closer to the correct answer than any of the other choices.

TAKING A KNOWLEDGE TEST BY COMPUTER

You should determine what authorization requirements are necessary before contacting or going to the computer testing center. Testing center personnel cannot begin the test until you provide them with the proper authorization, if one is required. A limited number of tests require no authorization. However, you should always check with your instructor or local Flight Standards District Office if you are not sure what kind of authorization you need to bring to the testing facility.

The next step is the actual registration process. Most computer testing centers require that all applicants contact a central 1-800 phone number. At this time you should select a testing site of your choice, schedule a test date, and make financial arrangements for test payment. You may register for tests several weeks in advance of the proposed testing date. You may also cancel your appointment up to 2 business days before test time, without financial penalty. After that time, you may be subject to a cancellation fee as determined by the testing center.

You are now ready to take the test. Remember, you always have an opportunity to take a sample test before the actual test begins. Your actual test is under a time limit, but if you know your material, there should be sufficient time to complete and review your test.

Within moments of completing the test, you will receive an airman test report, which contains your score. It will list those subject matter knowledge areas where questions were answered incorrectly. **The total number of subject matter knowledge codes shown on the test report is not necessarily an indication of the total number of questions answered incorrectly.** These codes refer to a list of knowledge areas that can be found in appendix 1 of this guide. You can study these knowledge areas to improve your understanding of the subject matter.

Your instructor is required to review each of the knowledge areas listed on your airman test report with you, and complete an endorsement that remedial study was conducted in these deficient areas. The examiner may also quiz you on these areas of deficiency during the practical test.

The airman test report, which must show the computer testing company's embossed seal, is an important document. **DO NOT LOSE THE AIRMAN TEST REPORT** as you will need to present it to the examiner prior to taking the practical test. Loss of this report means that you will have to request a duplicate copy from the FAA in Oklahoma City. This will be costly and time consuming.

CHEATING OR OTHER UNAUTHORIZED CONDUCT

Computer testing centers follow rigid testing procedures established by the FAA. This includes test security. When entering the test area, you are permitted to take only scratch paper furnished by the test administrator and an authorized aviation computer, plotter, etc., approved for use in accordance with FAA Order 8080.6, Conduct of Airmen Knowledge Testing via the Computer Medium, and AC 60-11, Aids Authorized for Use by Airman Written Test Applicants. The FAA has directed testing centers to stop a test any time a test administrator suspects a cheating incident has occurred. An FAA investigation will then follow. If the investigation determines that cheating or other unauthorized conduct has occurred, any airman certificate that you hold may be revoked, and you may not be allowed to take a test for 1 year.

RETESTING PROCEDURES

If the score on the airman test report is 70 percent or above, it is valid for 24 calendar months. The ground instructor instrument and instrument foreign pilot tests do not have an expiration date. You may elect to retake any test, in anticipation of a better score, after 30 days from the date your last test was taken. Prior to retesting, you must give your current airman test report to the computer testing administrator. Remember, the score of the **latest** test you take will become the official test score. The FAA will not consider allowing anyone with a passing score to retake a test before the 30-day remedial study period.

A person who fails a knowledge test may apply for retesting before 30 days of the last test providing that person presents the failed test report and an endorsement from an authorized instructor certifying that additional instruction has been given, and the instructor finds the person competent to pass the test. A person may retake a failed test after 30 days without an endorsement from an authorized instructor.

EXPLANATION OF THE SAMPLE TEST

The sample questions in this guide are similar to the instrument rating test questions.

Knowledge in all areas presented in the study guide, not just the ability to respond to sample test questions, should be the goal in preparing for the test. For example, applicants should expect to encounter many test questions dealing with detailed ATC procedures, and may prepare themselves for such test questions by careful study of Part I of the Airman's Information Manual.

Correct responses, references, and detailed explanations for the sample test questions are included with the test questions.

This sample test is based on an instrument flight from the Reno Cannon International Airport in Reno, Nevada, to the Bishop Airport in Bishop, California. A completed flight plan, navigational log, and airplane information sheet are provided for information purposes.

The sample questions, responses, and analyses are based on procedures and regulations in effect at the time of preparation of this publication. When taking the test, always use the most current information available.

SAMPLE TEST QUESTIONS AND ANSWERS

1. When is the VOR navigation system required to be checked for bearing error limits before operating under instrument flight rules?

A—Within 10 days or 10 aircraft hours, whichever occurs first.
B—Within the last 30 days.
C—Within the last 60 days.

Answer B—Subject Matter Code: B10 (FAR Section 91.171), VOR equipment check for IFR operation.

2. What experience must the pilot have to conduct a flight under IFR as pilot in command in an airplane?

A—Passed an instrument competency check in the category of aircraft involved within the preceding 6-month period.
B—Have had 6 hours simulated instrument time and three approaches in airplanes within the preceding 6-month period.
C—Have 3 hours' simulated instrument time in airplanes and 3 hours in helicopters in the preceding 6-month period.

Answer A—Subject Matter Code: A20 (FAR Section 61.57E(1)e). If a pilot passes a competency check, the pilot does not have to meet the recent instrument experience requirements.

NOTE: The questions pertain to a proposed IFR flight from Reno Cannon International Airport, in Reno, Nevada, to the Bishop Airport in Bishop, California.

The route of flight is given in figure 1, block 8. Information which pertains to your aircraft is given in figure 1. Additional information required to complete the flight time computation is given in figure 2.

3. **(Refer to figure 1, and the previous NOTE.) What aircraft equipment code should be entered in block 3 of the flight plan?**

A—A.
B—T.
C—U.

Answer C—Subject Matter Code: J15 (AIM paragraph 5-7). In block 3 of the flight plan, you enter the designation of the aircraft followed by a slash and a letter for the equipment code. Figure 1 indicates only a transponder with Mode C.

4. (Refer to figure 1.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the OAT is -15 °C?

A—137 KCAS.
B—142 KCAS.
C—148 KCAS.

Answer B—Subject Matter Code: H06 (AC 61-23, chapters VI and VII). In the center of the computer side of your flight computer, on the right side, put the air temperature of -15° over the altitude of 17,000 feet (from block 7 of the flight plan, figure 1) then on the outer scale, find TAS of 185 (from block 4) which is over calibrated airspeed on the inner scale of 142 knots.

5. (Refer to figures 1 and 2.) (Use the FD excerpt below for RNO and use the entry closest to the flight planned altitude. Use the variation given for the FMG VORTAC site in figure 2.) What is the entry to be made in block 10 of the flight plan shown in figure 1?

FT	6000	9000	12000	18000
RNO		1920+02	2038-05	2258-15

A—1 hour 19 minutes.
B—1 hour 24 minutes.
C—1 hour 29 minutes.

Answer B—Subject Matter Code: H06 (AC 61-23, chapters VI and VII). To determine the estimated time en route to be entered in block 10, you must complete the flight planning log in figure 2.

Note that the variation on figure 2 is 16E, which is magnetic variation of 16° E. Subtract this from 220° (to convert wind from true to magnetic). Compute the groundspeed by use of wind, magnetic course, and true airspeed. By using groundspeed and distance, you can determine the time for each leg. Computed time is 1 hour 24 minutes and 12 seconds, which is nearest the listed response of 1 hour 24 minutes.

6. (Refer to figure 3.) Under which flight condition or location does the MUSTANG TWO DEPARTURE terminate?

A—At the FMG VORTAC.
B—When arriving at the flight planned altitude or altitude as amended by ATC.
C—When arriving at YERIN intersection.

Answer A—Subject Matter Code: J16. The departure route description at the bottom of the SID on figure 3 indicates that aircraft climbs via IRNO North LOC course to SPK, then right turn to FMG VORTAC or assigned route.

7. (Refer to figure 3.) What is the minimum rate of climb required to meet the Mustang Two Departure, RWY 34L, at 140 knots ground speed? (Mustang Two Departure, RWY 34L)

A—270 FPM.
B—583 FPM.
C—700 FPM.

Answer C—Subject Matter Code: J16. On figure 3, the note in the middle of the SID requires a minimum climb rate of 270 feet per NM to 6,700 feet. At a groundspeed of 140 knots, 2.333 NM is traveled in 1 minute. This requires a climb rate of approximately 630 FPM. (2.333 x 270 = 630) (any climb rate over 630 FPM will be satisfactory). An easy way to calculate rate-of-climb requirements is to use the rate-of-climb table in the instrument approach procedures legend.

8. (Refer to figure 4.) What is the visibility requirement for your aircraft approach category?

A—1-1/4 statute mile.
B—1-1/2 statute mile.
C—1-3/4 statute mile.

Answer B—Subject Matter Code J18 (AIM paragraph 5-46). For the VOR-A approach at BISHOP, the minimum descent altitude (MDA) for Category B aircraft is 7,400 feet with 1-1/2 mile visibility. The VSO on figure 1 is given as 74. 1.3 VSO is 96 knots, which is Category B.

9. When using a 2-bar VASI system, what visual indication should be observed when on the VASI glidepath approaching a runway?

A—Two bars on the left side of the runway; the far bars red and the near bars white.
B—Two bars on the left side of the runway and two bars on the right side of the runway; the far bars red and near bars white.
C—Two bars on the right side of the runway; the far bars red and the near bars white.

Answer A—Subject Matter Code: J03 (AIM paragraph 2-2). The light units are on the left side of the runway on 2-bar VASI's. When on the VASI glidepath, near lights are white and the far lights are red.

10 (Refer to figure 5.) Which VOR equipment check is acceptable on the northwest end of taxiway A at Reno Cannon International?

A—OBS set to 229, CDI centered, TO/FROM shows FROM, and the DME indicates 5.8 NM.
B—OBS set to 059, CDI indicates 2° to the right, TO/FROM shows TO, and the DME indicates blank.
C—OBS set to 239, CDI indicates 3° to the left, TO/FROM shows TO, and the DME indicates 5.5 NM.

Answer B—Subject Matter Code: B10. At Reno Cannon International, the VOR DME equipment check listed under VOR receiver checkpoints on figure 5 indicates that at the northwest end of taxiway A, there is a ground check on the 239° radial from the facility, which is 5.5 NM. Set the OBS to 059° (239° minus 180°) and the TO/FROM indicator indicates TO. The CDI indicates 2° to the right, which is acceptable as the FAR requires you to be within plus or minus 4° on ground checks. The blank DME is acceptable because VOR checks require no DME verification.

APPENDIX 1

LIST OF REFERENCE MATERIALS AND SUBJECT MATTER KNOWLEDGE CODES

The publications listed in the following pages contain study material you need to be familiar with when preparing for instrument rating knowledge tests. All of these publications can be purchased through U.S. Government bookstores, commercial aviation supply houses, or industry organizations. The latest revision of the listed references should be requested. Additional study material is also available through these sources that may be helpful in preparing for knowledge tests.

The subject matter knowledge codes establish the specific reference for the knowledge standard. When reviewing results of your knowledge test, you should compare the subject matter knowledge code(s) on your airman test report to the ones found below. This will be helpful for both review and preparation for the practical test.

FAR 61 Certification: Pilots and Flight Instructors

A20	General
A21	Aircraft Ratings and Special Certificates
A23	Private Pilots
A24	Commercial Pilots
A26	Flight Instructors

FAR 91 General Operating and Flight Rules

B07	General
B08	Flight Rules – General
B09	Visual Flight Rules
B10	Instrument Flight Rules
B11	Equipment, Instrument, and Certification Requirements
B12	Special Flight Operations
B13	Maintenance, Preventive Maintenance, and Alterations

FAR 97 Standard Instrument Approach Procedures

B97	General

NTSB 830 Rules Pertaining to the Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records

G10	General
G11	Initial Notification of Aircraft Accidents, Incidents, and Overdue Aircraft
G12	Preservation of Aircraft Wreckage, Mail, Cargo, and Records
G13	Reporting of Aircraft Accidents, Incidents, and Overdue Aircraft

AC 61-23 Pilot's Handbook Of Aeronautical Knowledge

H03	Flight Instruments
H04	Airplane Performance
H05	Weather
H06	Basic Calculations Using Navigational Computers or Electronic Calculators
H07	Navigation
H09	Appendix 1: Obtaining FAA Publications

AC 61-21 Flight Training Handbook

H62	Emergency Flight by Reference to Instruments

AC 61-27 Instrument Flying Handbook

I01	Training Considerations
I02	Instrument Flying: Coping with Illusions in Flight
I03	Aerodynamic Factors Related to Instrument Flying
I04	Basic Flight Instruments
I05	Attitude Instrument Flying—Airplanes
I06	Attitude Instrument Flying—Helicopters
I07	Electronic Aids to Instrument Flying
I08	Using the Navigation Instruments
I09	Radio Communications Facilities and Equipment
I10	The Federal Airways System and Controlled Airspace
I11	Air Traffic Control
I12	ATC Operations and Procedures
I13	Flight Planning
I14	Appendix: Instrument Instructor Lesson Guide — Airplanes
I15	Segment of En Route Low Altitude Chart

AC 00-6 Aviation Weather

I20 The Earth's Atmosphere
I21 Temperature
I22 Atmospheric Pressure and Altimetry
I23 Wind
I24 Moisture, Cloud Formation, and Precipitation
I25 Stable and Unstable Air
I26 Clouds
I27 Air Masses and Fronts
I28 Turbulence
I29 Icing
I30 Thunderstorms
I31 Common IFR Producers
I32 High Altitude Weather
I36 Glossary of Weather Terms

AC 00-45 Aviation Weather Services

I40 The Aviation Weather Service Program
I41 Surface Aviation Weather Reports
I42 Pilot and Radar Reports and Satellite Pictures
I43 Aviation Weather Forecasts
I44 Surface Analysis Chart
I45 Weather Depiction Chart
I46 Radar Summary Chart
I47 Significant Weather Prognostics
I48 Winds and Temperatures Aloft
I49 Composite Moisture Stability Chart
I50 Severe Weather Outlook Chart
I51 Constant Pressure Charts
I52 Tropopause Data Chart
I53 Tables and Conversion Graphs

AIM Airman's Information Manual

J01 Air Navigation Radio Aids
J02 Radar Services and Procedures
J03 Airport Lighting Aids
J04 Air Navigation and Obstruction Lighting
J05 Airport Marking Aids and Signs
J06 Airspace — General
J07 Class G Airspace
J08 Controlled Airspace
J09 Special Use Airspace
J10 Other Airspace Areas
J11 Service Available to Pilots
J12 Radio Communications Phraseology and Techniques
J13 Airport Operations
J14 ATC Clearance/Separations
J15 Preflight
J16 Departure Procedures
J17 En Route Procedures
J18 Arrival Procedures
J19 Pilot/Controller Roles and Responsibilities
J21 Emergency Procedures — General
J22 Emergency Services Available to Pilots
J23 Distress and Urgency Procedures
J24 Two-Way Radio Communications Failure
J25 Meteorology
J26 Altimeter Setting Procedures
J27 Wake Turbulence
J29 Potential Flight Hazards
J30 Safety, Accident, and Hazard Reports
J31 Fitness for Flight
J32 Type of Charts Available
J33 Pilot Controller Glossary
J34 Airport/Facility Directory
J35 En Route Low Altitude Chart
J36 En Route High Altitude Chart
J39 Terminal Area Chart
J40 Standard Instrument Departure (SID) Chart
J41 Standard Terminal Arrival (STAR) Chart
J42 Instrument Approach Procedures (IAP)

AC 67-2 Medical Handbook For Pilots

J52 Hypoxia
J56 Alcohol
J57 Drugs and Flying
J58 Carbon Monoxide
J59 Vision
J60 Night Flying
J61 Cockpit Lighting
J62 Disorientation (Vertigo)
J63 Motion Sickness
J64 Fatigue
J65 Noise
J66 Age
J67 Some Psychological Aspects of Flying

Additional Advisory Circulars

K01 AC 00-24, Thunderstorms
K02 AC 00-30, Rules of Thumb for Avoiding or Minimizing Encounters with Clear Air Turbulence
K04 AC 00-54, Pilot Wind Shear Guide
K23 AC 20-121, Airworthiness Approval of Airborne Loran C Systems for Use in the U.S. National Airspace System
K40 AC 25-4, Inertial Navigation System (INS)
K80 AC 60-4, Pilot's Spatial Disorientation

L50 AC 91-6, Water, Slush, and Snow on the Runway
L53 AC 91-14, Altimeter Setting Sources
L57 AC 91-43, Unreliable Airspeed Indications
L59 AC 91-46, Gyroscopic Instruments – Good Operating Practices
L61 AC 91-50, Importance of Transponder Operation and Altitude Reporting
L62 AC 91-51, Airplane Deice and Anti-Ice Systems
L70 AC 91-67, Minimum Equipment Requirements for General Aviation Operations Under FAR Part 91
M51 AC 20-117, Hazards Following Ground Deicing and Ground Operations in Conditions Conductive to Aircraft Icing

FAA Accident Prevention Program Bulletins

V01 FAA-P-8740-2, Density Altitude
V02 FAA-P-8740-5, Weight and Balance
V03 FAA-P-8740-12, Thunderstorms
V04 FAA-P-8740-19, Flying Light Twins Safely
V05 FAA-P-8740-23, Planning your Takeoff
V06 FAA-P-8740-24, Tips on Winter Flying
V07 FAA-P-8740-25, Always Leave Yourself an Out
V08 FAA-P-8740-30, How to Obtain a Good Weather Briefing
V09 FAA-P-8740-40, Wind Shear
V10 FAA-P-8740-41, Medical Facts for Pilots
V11 FAA-P-8740-44, Impossible Turns
V12 FAA-P-8740-48, On Landings, Part I
V13 FAA-P-8740-49, On Landings, Part II
V14 FAA-P-8740-50, On landings, Part III
V15 FAA-P-8740-51, How to Avoid a Midair Collision
V16 FAA-P-8740-52, The Silent Emergency

NOTE: AC 00-2, Advisory Circular Checklist, transmits the status of all FAA advisory circulars (AC's), as well as FAA internal publications and miscellaneous flight information such as Airman's Information Manual (AIM), Airport/Facility Directory, practical test standards, knowledge test guides, and other material directly related to airman certificates and ratings. To obtain a free copy of AC 00-2, send your request to:

U.S. Department of Transportation
General Services Section, M-45.3
Washington, DC 20590

Appendix 1

COMPUTER TESTING DESIGNEES

The following is a list of the computer testing designees authorized to give FAA knowledge tests. This list should be helpful in choosing where to register for a test or for requesting additional information.

Aviation Business Services
1-800-947-4228
outside U.S. (415) 259-8550

Drake Prometric
1-800-359-3278
outside U.S. (612) 896-7702

Sylvan Learning Systems, Inc.
1-800-967-1100
outside U.S. (410) 880-0880, Extension 8890

The latest listing of computer testing center locations may be obtained through FedWorld, (703) 321-8020, in the FAA library file named TST_SITE. For technical assistance, contact the FedWorld help desk at (703) 487-4608.

APPENDIX 2

Form Approved: OMB No. 2120-0034

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

FLIGHT PLAN

(FAA USE ONLY) ☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER | TIME STARTED | SPECIALIST INITIALS

1. TYPE	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE/ SPECIAL EQUIPMENT	4. TRUE AIRSPEED	5. DEPARTURE POINT	6. DEPARTURE TIME		7. CRUISING ALTITUDE
					PROPOSED (Z)	ACTUAL (Z)	
X IFR	N1123A	BE58	185 KTS	RNO	1900		17,000

8. ROUTE OF FLIGHT
MUSTANG TWO DEPARTURE, FMG V105, OAL, DIRECT

9. DESTINATION (Name of airport and city)	10. EST. TIME ENROUTE HOURS	MINUTES	11. REMARKS
BIH			TRAINING FLIGHT

12. FUEL ON BOARD HOURS	MINUTES	13. ALTERNATE AIRPORT(S)	14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE	15. NUMBER ABOARD
5	09	N/A	JOE PILOT 17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)	2

16. COLOR OF AIRCRAFT
RED/WHITE/BLUE

CIVIL AIRCRAFT PILOTS. FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed $1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.

FAA Form 7233-1 (8-82)

CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

AIRCRAFT INFORMATION

MAKE Beechcraft MODEL BE58

N 1123A VSO 74 KIAS

AIRCRAFT EQUIPMENT / STATUS **

**NOTE: X = OPERATIVE INOP = INOPERATIVE N/A = NOT APPLICABLE

Transponder: X (Mode C) X ILS: (Localizer) X (Glide Slope) Inop.

VOR: (No. 1) X (No. 2) X ADF: X RNAV: N/A Vertical Path Computer N/A

DME: Inop. Marker Beacon: (Audio) X (Visual) X

FIGURE 1.—Completed Flight Plan.

FLIGHT LOG

RENO CANNON, (RNO) TO BISHOP (BIH)

CHECK POINTS		ROUTE		WIND	SPEED-KTS		DIST	TIME		FUEL	
FROM	TO	ALTITUDE	COURSE	TEMP	TAS	GS	NM	LEG	TOT	LEG	TOT
		SID	MUSTANG	220/58							
RNO	FMG	CLIMB	TWO DEPT								
		V105									
FMG	YERIN	CLIMB	119°		185kts	133kts	51	:23:00			
		V105									
YERIN	OAL	17,000	120°			170kts	82	:29:00			
		DIRECT									
OAL	BIH	16,000	200°			127kts	47	:22:12			
		APPROACH	&								
	AIRPORT	LANDING						:10:00			
							180	1:24:12			

OTHER DATA:

NOTE: VAR. 16° E
FUEL AT 30 gal/hr
Total Fuel 155 gal
3:30 hrs. fuel reserve
:45 hr @ cruise
2:45 holding or time to alternate

FLIGHT SUMMARY

TIME	FUEL (LB)	
1:24	255 lb	EN ROUTE
3:30	630 lb	RESERVE
:15	45 lb	MISSED APPR.
5:09	930 lb	TOTAL

FIGURE 2.—Flight Planning Log.

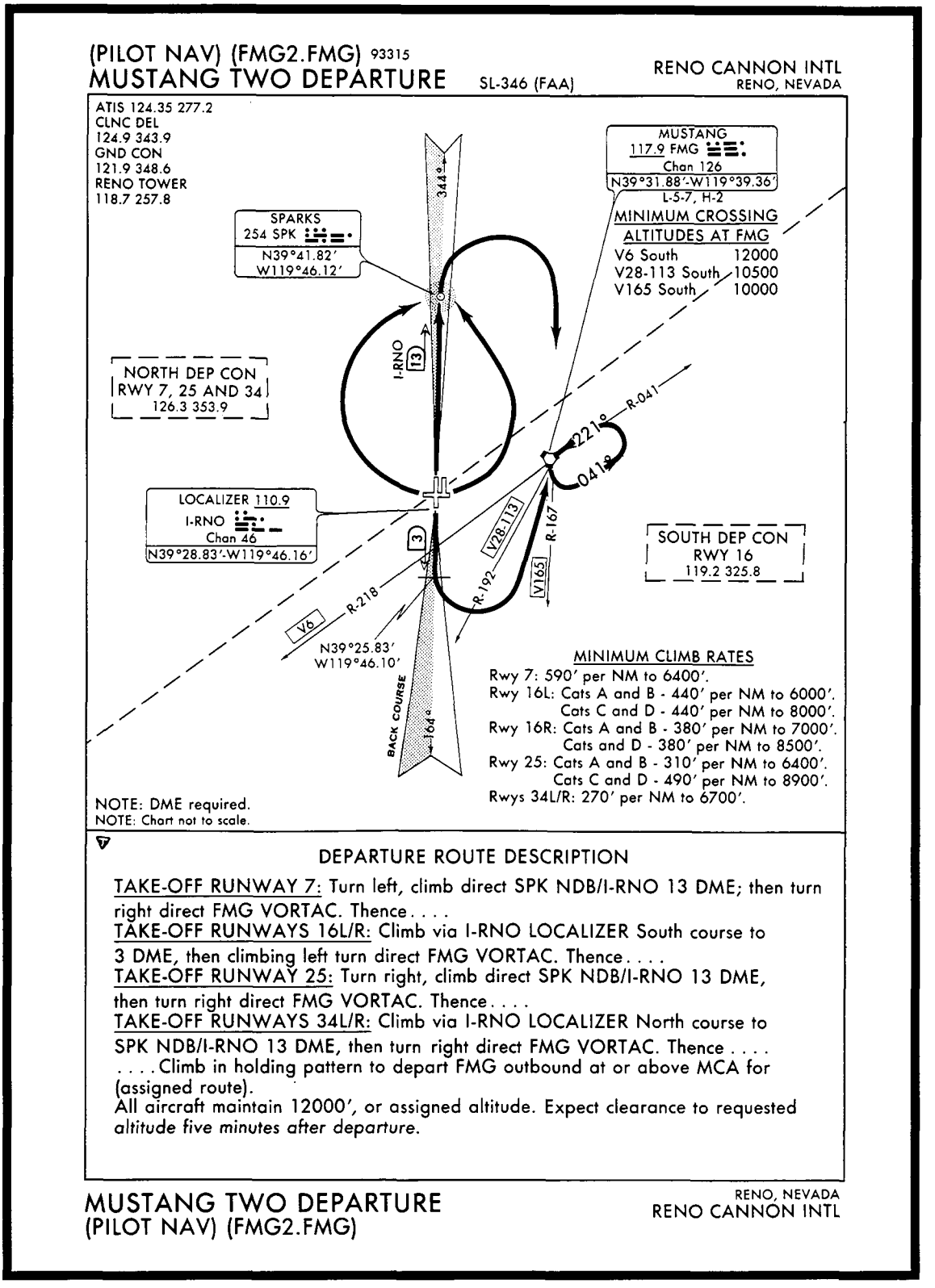

FIGURE 3.—Mustang Two Departure.

Appendix 2

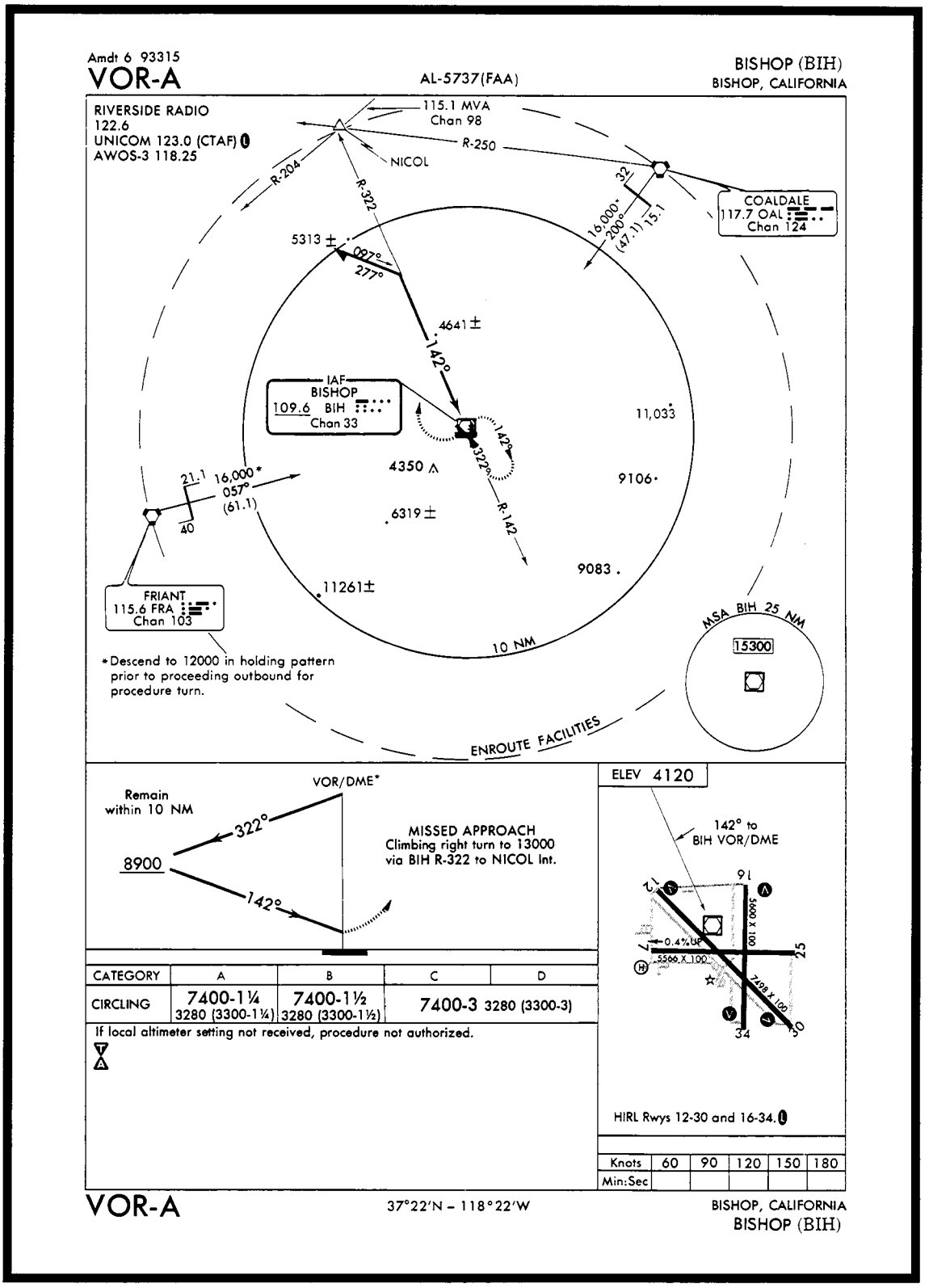

FIGURE 4.—VOR–A Approach, Bishop, (BIH) CALF.

220 **VOR RECEIVER CHECK**

COLORADO

VOR RECEIVER CHECK POINTS

Facility Name (Airport Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac.Mag.	Dist. from Fac. N.M.	Check Point Description
Akron	114.4/AKO	A/6000	179	7.0	Over lgtd twr.
Butts	108.8/FCS	A/9500	134	28.0	Over Pueblo Vortac.
Cortez (Cortez-Montezuma County)	108.4/CEZ	A/7000	196		Over apch end rwy 21.
Durango (Durango-La Plata County)	108.2/DRO	G	008	0.6	At turnout apch end rwy 20.
	108.2/DRO	G	223	0.6	At bend of southern most taxiway.
Fruita (Walker Fld)	109.0/RHU	A/6000	111	7.0	Over intersection of Rwys 04-22 and 11-29.
Gill (Greeley-Weld County)	114.2/GLL	A/6500	215	7.5	Over silos of sugar beet factory.
Hayden (Craig-Moffat)	115.6/CHE	A/7200	248	9.6	Over apch end rwy 25.
Montrose (Montrose Regional)	108.6/MTJ	G	143	0.7	In front of airline terminal building.
Pueblo (Pueblo Memorial)	116.7/PUB	G	249	4.0	On painted circle with arrow on runup pad S side apch end rwy 08L.
	116.7/PUB	A/7300	294	7.8	Over KOAA TV twr, 5.4 NM of arpt.

VOR TEST FACILITIES (VOT)

Facility Name (Airport Name)	Freq.	Type, VOT Facility	Remarks
Denver (Stapleton Intl)	110.0	G	
Centennial	108.2	G	
Colorado Springs (City of Colorado Springs Muni)	110.4	G	

NEVADA

VOR RECEIVER CHECK POINTS

Facility Name (Airport Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag.	Dist. from Fac. N.M.	Check Point Description
Bullion (Elko Muni-J.C. Harris Fld)	114.5/BQU	A/7000	343	5.1	Over center of race track.
Ely (Ely Arpt/Yelland Fld)	110.6/ELY	G	060		On southside twy leading to passenger terminal area.
Mustang (Reno Cannon Intl)	117.9/FMG	G	229	5.8	On Jet west ramp.
	117.9/FMG	G	239	5.5	Northwest end taxiway A
Mustang (Reno/Stead)	117.9/FMG	A/7000	293	12.8	Over atct.
Wells (Harriet Field)	114.2/LWL	A/7000	286	8.3	Over radio twr.

VOR TEST FACILITIES (VOT)

Las Vegas (North Las Vegas)	108.2	G

FIGURE 5.—Excerpt from the Airport Facility Directory.

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